REMARKS

This amendment is in response to a non-final Office action (Paper No. 11) mailed January 16, 2003. Upon entry of this amendment, claims 2, 3, 6, 9, 23, 24, 25, 27, 36 and 37 will be pending in this application. Applicants have amended claims 2, 27, 36 and 37 by this amendment.

In Paper No. 11, the Examiner objected to the language of claim 36. Applicants have amended claim 36 by this amendment to overcome this rejection.

In Paper No. 11, the Examiner rejected claim 37 under 35 U.S.C. 112, second paragraph as being indefinite. Applicants have amended claim 37 by this amendment to overcome this rejection.

In Paper No. 11, the Examiner has rejected claims 2, 6, 9, 36 and 37 under 35 U.S.C. 103 (a) as being unpatentable over Sato, JP 404161340A in view of Bassous *et al.,* U.S. Patent No. 3,949,410. The Examiner also rejected claims 3 and 27 under 35 U.S.C. 103 (a) as being unpatentable over Sato '340 in view of Bassous '410 and further in view of Abe *et al.,* U.S. Patent No. 4,914,562. Applicants traverse these rejections.

Applicants have translated the primary reference to Sato '340 into English and are supplying the patent office with said English translation of Sato '340 along with this amendment.

Regarding claims 2 and 27, the Examiner, in Paper No. 11, states that Sato '340 teaches "a nozzle plate coupled to a front surface of a substrate". The Examiner indicates that reference numeral 2 of Sato '340 is the substrate. Beyond this, the Examiner provides little or no guidance of why Sato '340 teaches "a nozzle plate coupled to a front surface of a substrate". In analyzing FIG. 1 of Sato '340, it illustrates that the nozzle plate is separated from the substrate by a third and intervening structure, the barrier walls. The barrier walls has a reference numeral 4. In FIG. 1 of Sato '340, the nozzle plate, the substrate, and the barrier walls are three different substances as is evidenced by the different shading for each of these three parts. In Sato '340, the nozzle plate is attached to the barrier walls which are attached to the substrate. In Sato '340, the nozzle plate is not attached to the substrate as in Applicants' claimed invention. Therefore Applicants traverse this rejection because Sato '340 fails to teach or suggest the nozzle plate coupled to the substrate. This feature is neither taught nor suggested by Sato '340.

In addition, Applicants have amended claim 2 by this amendment to claim that the nozzle plate is **directly** attached to the substrate.

Regarding claim 6, the Examiner, in Paper No. 11 indicates that FIG. 1 of Sato '340 teaches the feature of the nozzle holes or chamber-orifice holes have a truncated conical shape. Applicants disagree. Applicants note that Webster's New World Dictionary, Third College Edition defines a cone as "a flat-based, single-pointed solid formed by a rotating **a straight line** that traces out a closed-curve base from a fixed vertex point that is not in the same plane as the

base". The nozzle hole 8 in Sato '340 is clearly not a cone as a **curved line is rotated, not a straight line**. Because FIG. 1 fails to teach or suggest that the nozzle hole of Sato '340 is conic, the rejection must be withdrawn.

Regarding claim 9, the Examiner, in Paper No. 11, indicates that FIG. 7 teaches that the two channels are in parallel. Applicants disagree. Applicants submit that reference numeral 59 of FIG. 7 of Sato '340 is not a channel but a "supply opening". Further, the channel, in Applicants' claimed invention, is formed in the back side of the substrate opposite to the side where the nozzle plate attaches to. In FIG. 7, reference numeral 59 of Sato '340 is on the front side or same side of the substrate facing the barrier 58 and the orifices. Since Sato '340 fails to teach or suggest claim 9, the rejection must be withdrawn.

Regarding claims 36 and 37, Applicants claim that the chamber orifice holes have a cylindrical shaped portion. In Paper No. 11, the Examiner indicates that FIG. 1 of Sato '340 teaches a nozzle hole having a cylindrical portion. Applicants disagree. Applicants note that Webster's New World Dictionary, Third College Edition defines a cylinder as "a solid figure described by a **line** which always has a point in common with a given closed curve, and which moves so that it is always parallel with a given line not in the plane of the curve". Applicants submit that FIG. 1 of Sato '340 illustrates a nozzle hole that has a **curve and not a line** which always has a point in common with a given closed curve...". Because no portion of the nozzle hole structure of FIG. 1 of Sato '340 fits the definition of a "cylinder", the rejection must be

withdrawn. Applicants have amended claim 36 in response to a claim objection regarding conical portion of the nozzle hole and not the cylindrical portion. Thus, Applicant's submit that if the Examiner later finds a new ground of rejection for the cylindrical portion feature of the nozzle hole of claim 36, this new ground would not be necessitated by Applicants' amendment to claim 36 to overcome the claim objections pertaining to the conical portion of the nozzle hole.

Applicants request the Examiner to particularly review the definitions of a "cylinder" and a "cone" vis-a-vis FIG. 1 of Sato '340 as the curved side walls of FIG. 1 of Sato '340 do not meet the definitions of "a cylinder" and/or "a cone".

No fee is incurred by the filing of this amendment. Should other fees be incurred, the Commissioner is authorized to charge Deposit Account No. 02-4943 of Applicants' undersigned attorney in the amount of such fees.

In view of the above, all claims are deemed to be allowable and this application is believed to be in condition to be passed to issue. Should any questions remain unresolved, the Examiner is requested to telephone Applicants' attorney.

Respectfully submitted,

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